


AMSAT SATELLITE REPORT

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Ariane/ALINS Readied

ESA, the European Space Agency is preparing LO3, the next of its test launches of the Ariane rocket, for a liftoff June 19 it has been announced. The first test launch, LO1, was a complete success when launched from the ESA facility at Kourou, French Guiana, December 24, 1979. The launch of LO2, as is well-known did not do as well, however.

In the course of LO2's demise, the ill-fated Ariane took AMSAT's Phase IIIA satellite as well as the Firewheel experiment of the Max Planck Institute on a short ride to the floor of the Atlantic. Since that dismal day last May 23, recovery efforts on both sides of the Atlantic have proceeded apace.

AMSAT's progress has been adequately reported in these pages. Now ESA, by announcing their plans for continuation of the test regime, are implicitly stating they are ready. In other words, the combustion chamber instability which wreaked havoc on LO2 and its payload has been corrected, an ESA news release announces.

According to the release, ESA has now solved the problems encountered on LO2 by modifying the main engine propellant injector nozzles. Ground tests using the new nozzles combined with tightened acceptance criteria/procedures for candidate injectors will preclude the combustion instabilities (oscillations) that ultimately ruptured the plumbing of LO2, ESA said. The June 19 test of LO3 will thus mark the resumption of the test program suspended last May.

Meanwhile, AMSAT obviously will be watching the launch of LO3 with great interest and anticipation. A successful launch here will place the program back on track and enhance prospects for placing Phase IIIB in orbit during the third quarter 1982.

AMSAT's coverage of the launch of LO3 will be similar to that provided for the LO1 launch. The AMSAT Launch Information Network/Service (ALINS) will be activated early on the morning of June 19 and carry the live count-down and downrange progress reports as they are available. Two or three AMSAT HF stations will again be audio-patched to the Goddard Space Flight Center in Greenbelt, Maryland. It is there that AMSAT's line will be patched to an interface circuit between Goddard and Kourou. The NASA/Goddard line is established with Kourou since NASA will be providing downrange tracking and telemetry assistance to ESA (as has been the case

previously). At press time ALINS plans were incomplete but officials at AMSAT HQ indicated the minimum configuration may include WA3NAN and WA2LQQ on 20 and 15 meters, respectively. Since the LO3 activities do not directly involve an amateur radio satellite, no plans are being made to activate W1AW in the ALINS as was done for LO2.

Precise times and frequencies for ALINS/LO3 will be announced on the regular AMSAT Nets, on W1AW bulletins and here in ASR. Stay tuned!

AO-7 Nears Eclipse Season

In the next week or so AMSAT-OSCAR 7 will begin to enter earth-shadow areas during its orbit and users will notice the effect immediately. According to an analysis performed by Phil Karn, KA9Q, AO-7 will begin to enter the earth's shadow on every orbit approximately June 1. The bi-hourly eclipse will take place while the satellite is over Antarctica according to KA9Q. Since the useful life of the on-board batteries has long since passed, AO-7 will power-down and remain dormant for the few minutes it remains in shadow on each orbit. Then, when the solar panels are again illuminated by the sun, AO-7 will power up and resume operations. What the user will notice, however, is that upon power-up, AO-7 will always revert to Mode B operation. To attain any other mode under these circumstances will likely require the active intervention of an AO-7 Ground Command Station once every orbit. No restrictions or prohibitions on use of AO-7 are contemplated according to Operations VP, K1HTV. Thus AO-7 may be used in whatever mode in which it appears except, naturally, on Wednesday, UTC, which continues to be experiments' day on both AO-8 and AO-7.

New/Interesting DX

Nico, PAØDLO, continues to report some of the more interesting DX being heard in Europe. As his latest report shows, many of the stations are workable over a wide area of North America. All stations were heard on Mode B/cw: YO9CN, UC2ABN, YW4NI, VE6KY. Thanks Nico. Additional reports from other areas are requested.

AMSAT MIRROR:

The Management and Finance Committee*

The AMSAT Management and Finance Committee is charged with advising officers and directors on matters affecting the business, financial and organizational health of AMSAT. It superseded the Investment Committee which had been established in 1976 to oversee the investment of Life Member and other reserves.

Members of the Management Committee are appointed by the President and serve at his pleasure. The current roster is a mixture of experienced hands and some new faces. All are selected for their professional expertise and their willingness to serve. The Committee is chaired by W2RS and includes veteran AMSAT members: John DuBois, W1HDX; Bill Tynan, W3XO; Jim McKim, W0CY. AMSAT Officers who also serve on the Management Committee *ex officio* include: Vern Riportella, WA2LQQ, Executive Vice President; Bill Brown K9LF, Vice President for Special Projects; Roy Rosner, K4YV, Treasurer.

In the "new faces" category are: Shelton Binstock, N3AZN; Leo Cuniff, W2OEH; Dennis McAlpine, K2SX. N3AZN, an attorney and Certified Public Accountant in Washington, DC, has been especially helpful to K4YV and Martha, our Office Manager, in advising on accounting and control systems. W2OEH, an engineer by training, is senior vice president of a major electronics firm as well as an active private investor in high technology, real estate and finance. K2SX, a financial analyst, has worked both in Wall Street and in corporate mergers/acquisitions, and is presently a principal in a financial public relations firm. As well as being an active ham from his Manhattan apartment (5BDXCC), he has served as Chairman of the ARRL Contest Advisory Committee. The committee is perpetually seeking new talent to augment the present members. Do you have relevant experience in corporate management, law, accounting or finance? If so, you may find worthy challenges for your talent(s). Contact W2RS or W3IWI.

During the past year the Management and Finance Committee has considered a number of crucial questions posed by W3IWI and has held meetings with the Board of Directors. Now, we would like to borrow an idea from the ARRL and turn it into more of a two-way channel with the membership in the manner of some of the ARRL advisory committees. If any AMSAT member has suggestions or comments relating to finances, business management or organizational structure of AMSAT, please address them to Box 27. Martha will duplicate and distribute your notes to the entire committee. Alternatively, you may, of course, choose to contact any committee member directly. —W2RS

*AMSAT MIRROR is an aperiodic feature of ASR which examines the structure of the organization itself in order to provide members with insight to its workings. This initial episode is by Ray Soifer, W2RS, Chairman of the Management and Finance Committee.

Things Your Mommy Never Told You

Many amateurs face a similar set of quandries when first learning the techniques of communicating through Amateur Radio satellites. Whether he is a product of the spark-gap or missile-gap era, the novice likely could distinguish vertical polarization from horizontal if only by referring to the orientation of his antenna. "If the elements point up and down, it's vertically polarized." True enough! But what is circular polarization? Does that mean that the antenna is whirling around in space as a windmill in a spring gale?

This type of question has recurred so often that it is a minor mystery why no one has thought to collect "The 20 Most Asked" and to provide an accurate response to each. Now Shep, W4AUZ, is beginning a project to identify the 20 or 30 "Most Asked" and to illuminate some formerly murky areas of amateur knowledge.

Shep's completed list will be published in *ORBIT* and other journals as seems appropriate. In addition, a separate off-print of the project is likely.

Certainly you can recall some of the questions you had before you became expert. Remember how great you felt at the realization that you could locate OSCAR 6 any time you pleased? Someone is today wondering how deep is the abyss twixt himself and locating OSCAR 8. Why not help him out? Send your list of questions to W.R. "Shep" Shepard, W4AUX, 325 Taylor Drive, Lexington, KY 40505.

MARCO Slates 2K\$ for AMSAT

In a May 7, 1981 letter to AMSAT, Medical Amateur Radio Council (MARCO) Treasurer Dr. Edward R. Briner, WA3TVG, advised that the enclosed check for \$500 represented the second of four donations in that amount. AMSAT gratefully acknowledges the generosity of the Officers and members of MARCO (and concurrently congratulates them on their good judgement!). Thank you ladies and gentlemen of MARCO!

ARRL OSCAR-Ed Manager Sought

The ARRL announced recently that it is actively seeking a person to fill the vacancy in the Club and Training Department created by the transfer of Mark Wilson, AA2Z, to the Contest Department. Mark had been OSCAR-Education Manager for just under a year when the contest position became available. Mark, who characterizes himself as an avid contesteer, could not refuse the billet though he did leave the OSCAR-Ed slot reluctantly. Mark will continue to contribute to the OSCAR-Ed Program as time allows and will be writing a column or two for *ORBIT* Magazine until a replacement can be found as OSCAR-Ed Manager at the League.

Steve Place, WB1EYI, cognizant manager and Club and Training Department Manager says that ARRL will accept applications from suitably experienced amateurs for the OSCAR-Ed position. This is a full-time, salaried employment opportunity with the League at ARRL Headquarters in Newington. Contact Steve at (203) 666-1541 or write: ARRL, 225 Main St., Newington, CT 06111.

AMSAT Satellite Report's Spotlight On K2ZRO

If ever there were an amateur suitable for a "Most Unforgettable Character" article, then Kaz Deskur, K2ZRO is he. Why? That may be difficult to explain. Kaz's personality might be likened to a ball of yarn with a few loose ends dangling out. Let's pull on one and see what it's connected to.

Take a Polish teenager with an abiding interest in radio, place him in 1939 in Poland and what do you get? You get K2ZRO; a twice-captured, once-wounded Polish Underground commando and Underground radio station operator. Pull a little more on the yarn and we find this same personality has the character and determination to garner DXCC 300+, WPX Honor Roll and the CHC Arne Trossman Trophy for having earned over two hundred awards.

Pull another. On this lead we find the same Polish teenager facing a Nazi death sentence alone and afraid. Pull a bit further and we find the adult a counselor to Boy Scouts, would-be hams and civil emergency groups providing leadership and a sense of security to contemporary teens as well as the community at large.

Take yet another strand and pull. On this tendril, we find the adventurous character who, after the war, went to England where he joined the RSGB. This is the same filament that became one of the first to receive a Sputnik QSL and later to work OSCAR 6. The same quick wit that twice facilitated his escape from POW camps is entwined with the keen insight leading to the invention of the *Satellabe* OSCAR tracking calculator. The generosity born of poverty is manifested now by his assignment of the royalties realized from the *Satellabe* sales to AMSAT.

But these diverse leads *do* in fact comprise an entity; an identifiably unique character called variously Kaz or Kay.

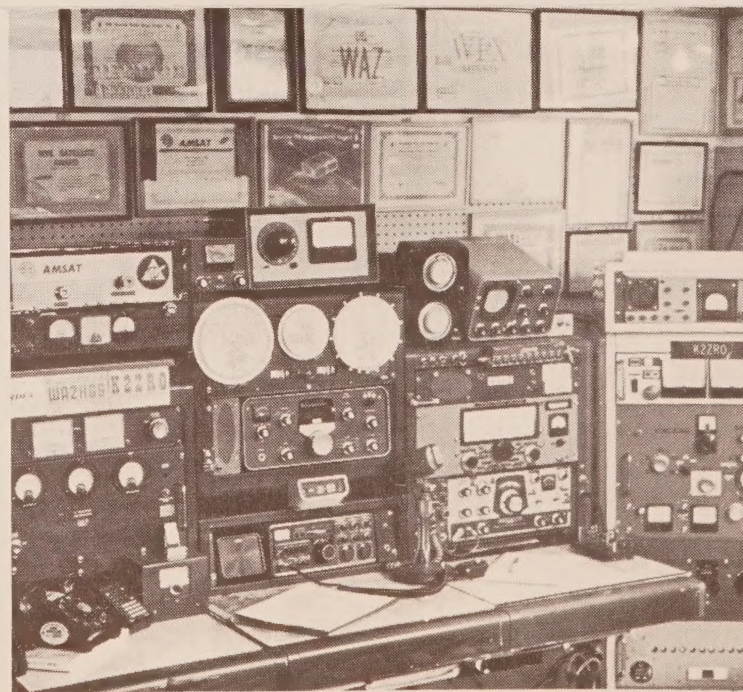
For this writer, however, our Southern New York Area Coordinator has a special quality of character beyond the ones mentioned previously. If it is true that a person's sense of humor is forged by personal crisis, then the trauma of war fired Kaz's humor. To the endless delight of those around him, that humor flourishes today. While most hams call their children "harmonics", Andy, KA1M, is a "parasitic" in the family joke assemblage and second son Ed, WB2DFY, is occasionally referred to as a "spurious emission" of his lovely mother, Sofie. To Sofie, satellites are a bit wondrous, but surely members of the family. It all began when, on OSCAR 6 for the first time, Kaz came bounding up the stairs to announce: "I can hear myself!" Sofie's offhand reply? "Amazing! But I thought the idea was to talk to other people...not to yourself." Seems as though some of Kaz's dry wit rebounds too.

Finally, although Kaz's spoken English is at times tinged with an eastern-European accent (he had this writer convinced for three years that it was a Lithuanian accent!) his many articles in the amateur printed media (including *ORBIT*, *AMSAT Newsletter* and 73) prove him to be a first-rate communicator too! K2ZRO does it all.



The "fish-eye" camera lens (above) catches Kaz at the controls of his well-equipped station. We wonder what the homebuilt boxes do — seems Kaz is skilled at building as well as operating! Those "long arms" must surely be helpful in reaching all of the controls from the operating position.

Below is a wider angle view of the station showing numerous awards hanging on the wall, certainly proof-positive this system works well.



Packet Radio Engineer Named

AMSAT Headquarters has announced the assignment of Dr. Hank Magnuski, KA6M, as AMICON Systems Engineer. AMICON is the AMSAT International Computer Network which was tentatively slated to occupy one of the SSCs (Special Services Channels) in the Phase IIIA passband. The AMICON SSC was proposed to provide a relatively sheltered enclave in which high-speed data transmission could transpire either between individuals or between nodes of a terrestrial network or a combination of the two groups. KA6M now operates the only digital repeater (digipeater) in the U.S.A. which is in the Palo Alto, California vicinity. The KA6M/R digipeater was designed with a system similar to that used by leading groups in Canada's British Columbia and Ontario.

As AMICON Systems Engineer, KA6M will be responsible for developing a series of standards for the SSC which will optimize its use in the environment now predicted to exist on Phase IIIB and C. The standards (a sub-set of which are called protocols) will be used by the potential user community to configure its equipment and software to a common baseline.

KA6M assumes his new responsibility from former AMICON coordinator and SSC architect WA2LQQ. The latter will be shifting a number of his "hats" to make way for the imminent ORBIT Magazine staff transitions.

Hank is expert in the CCITT X.25 standard (HDLC) having provided numerous systems using this protocol through the company of which he is President (Gamma-Tech). In addition to developing the AMICON standard for AMSAT, he will provide an important bridge to other organizations working in the area such as AMRAD (Amateur Research and Development Corporation) and the ARRL. Finally, as AMICON Systems Engineer, KA6M will implement technical solutions deriving from policy directives of AMSAT in connection with the AMICON SSC.

Area Coordinator Update

AMSAT Vice President for Operations, K1HTV, announced recently the appointment of four additional Area Coordinators. The new appointees are: Doug Loughmiller, KO5I, Northern Texas; Dave Oman, VE3HCR, Ontario; Nick Laub, W0CA, Northern Minnesota; Gar Anderson, K0GA, Central Minnesota. Additional coordinators are sought for AK, DE, ND, NM, SC, Northern VA, Manitoba, Western NY and Southern Minnesota. Congratulations to the new appointees!

AMSAT UK Activity Week

Ron Broadbent, G3AAJ, Secretary of AMSAT UK has announced the scheduling of an Amateur Satellite activity week for October. Rules for the activity week will be published as they become available.

Hearing is Believing

A vivid demonstration of AO-8 Mode J capability in a weak-signal environment occurred recently when Bill Klepper, W3HV, successfully transmitted through AO-8J using only a 150 mW handi-talkie with a "rubber ducky" antenna. The resultant downlink was strong enough to be heard by K3NW as well as W3HV. When W3HV played the recording of the downlink signal for the AMSAT net, the signal was clearly evident about 10 dB above the noise floor of Bill's receiver. Bill reported that his downlink resulting from the hand-held was S2 to S3 with the noise at S1. Both W3HV and Norm, K3NW, are Ground Command Stations for AO-8. As such, they have come to know the bird well and performed the demonstration on Wednesday UTC (Experiments Day) to dramatize a point often missed by experienced Mode J users: Mode J *does* work well and continues to *hear* extremely well. Where many persons lose out, Bill and Norm are quick to point out, is inadequate preparation and implementation of the receive sub-system on 435 MHz. It should not go unnoticed, in addition, that Mode J provides a suitable arena for evaluating receive sub-systems that are to be used with the forthcoming L-transponder on Phase IIIB which will have a downlink in the 436 MHz region.

Computer Comm Confab Confirmed

The ARRL is sponsoring a conference on Amateur Radio Computer Networking on October 16, 1981, at the National Bureau of Standards in Gaithersburg, Maryland. The purpose of this conference is to explore the possibilities of an integrated amateur computer network using HF, VHF and Satellite Packet Radio as the primary transmission means. A global network consisting of Radio Amateurs serving the public interest is envisioned. Papers are sought on both technical and operational topics including network architecture, protocols, message handling, equipment design and selection, software, integration with various established traffic handling systems, interconnection with computer bulletin board systems and other topics. The event will be jointly sponsored by the ARRL, AMRAD and AMSAT. AMSAT has its Annual Meeting the following day, October 17, at nearby Goddard Space Flight Center. Those wishing to present papers should send a letter of intent to Paul Rinaldo, W4RI, AMRAD President, 1524 Springdale Avenue, McLean, VA 22101 before August 15.

OSCAR DXpedition Possible

At press time OSCAR devotees were hunting for a suitable 70 cm transceiver to accompany a DXpedition to the Caribbean during the June VHF contest. WA8ONQ plans to be among the crew that puts VP2A, VP2M, and VP2E on the birds during the contest. He will be leaving June 8 and must have a transceiver ready to go by then. Can you help? Call Jim Stitt, WA8ONQ, 311 North Marshall Road, Middletown, Ohio, 45042 as soon as possible.